
EBARA

CONTENTS

50Hz

Rev. F

SPECIFICATION 50Hz

Rev. F

PUMP			
Liquid Handled	Type of liquid		Clean water
	Temperature	[°C]	min. +5 max. +45
Maximum working pressure		[MPa]	0.6
Maximum suction depth		[m]	8
Construction	Impeller		Closed centrifugal type
	Shaft seal type		Mechanical seal
	Bearing		Sealed ball bearing
Pipe Connection	Suction	[inch]	G 1” UNI ISO 228
	Discharge	[inch]	G 1” UNI ISO 228
Material	Casing		AISI 304
	Impeller		PPE+PS glass fibre reinforced
	Casing cover		AISI 304
	Shaft seal		Ceramic/Carbon/NBR
	Shaft		AISI 303 (Wet extension)
	Stages		-
	Ejector		PPE+PS glass fibre reinforced
	Bracket		Aluminium
	Diffuser		PPE+PS glass fibre reinforced
Applicable standard of test			ISO 9906 – Annex A

MOTOR				
Type			Electric - TEFC	
			Single Phase	Three Phase
No. of Poles			2	
Rotation speed		[min^{-1}]	≈ 2800	
Insulation Class			F	
Protection degree (CEI EN 60034-5)			IP 54 IP 55 (on request)	
Power rating		[kW]	0.37 ÷ 0.6	
		[HP]	0.5 ÷ 0.8	
Frequency		[Hz]	50	
Voltage		[V]	230 ±10%	230/400 ±10%
Capacitor			Built in	-
Over load protection			Built in	Provided by the user
Casing material			Aluminium	
Motor support			Aluminium	
Dimensions of cable entry			PG 11 (see dimensions page 400)	

SELECTION CHART

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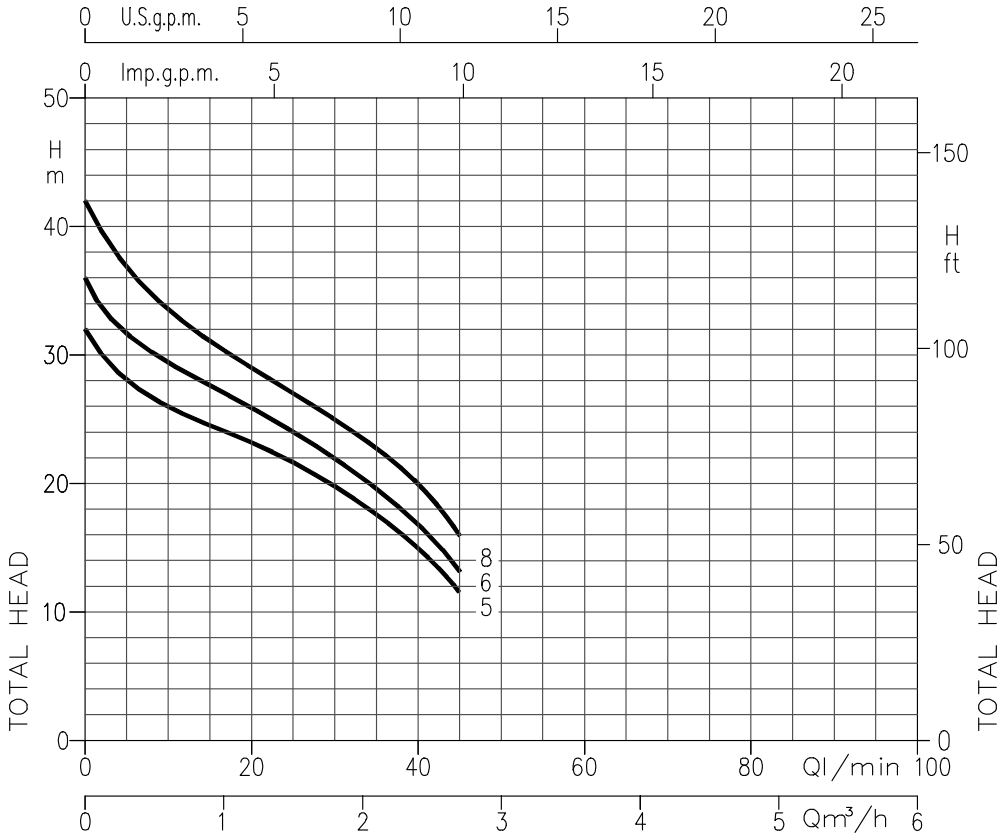

Pump Type		Power		Q=Capacity				
				l/min 0	5	20	40	45
Single Phase	Three Phase	[kW]	[HP]	m³/h 0	0.3	1.2	2.4	2.7
				H=Total manometric head in meters				
JESXM5	JESX 5	0.37	0.5	32	28	23	15	11.5
JESXM 6	JESX 6	0.44	0.6	36	31.5	26	17	13.5
JESXM 8	JESX 8	0.6	0.8	42	37	29	20	16

TYPE KEY AND CURVE SPECIFICATIONS 50Hz

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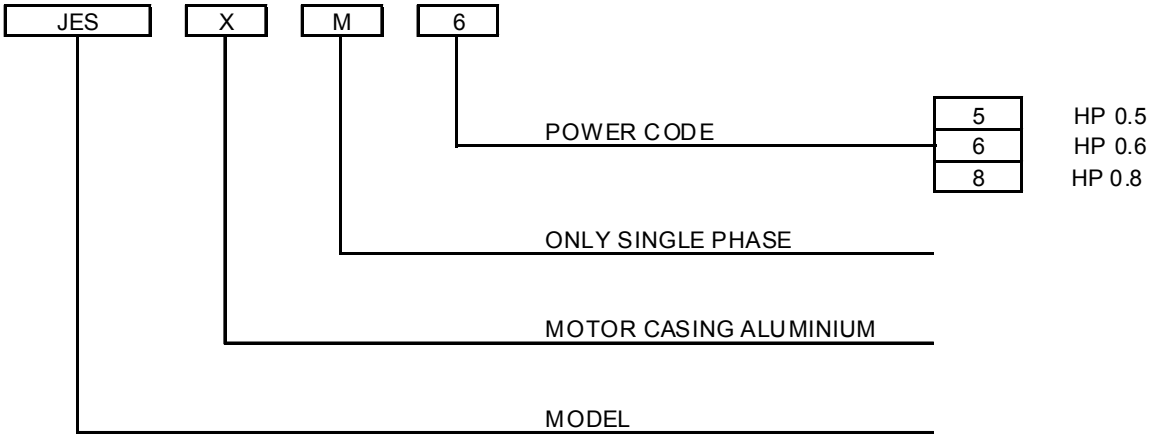
TYPE KEY



PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A
The curves refer to effective speed of asynchronous motors at 50 Hz
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of ν = 1 mm^2/s (1 cSt)
The NPSH curve is an average curve obtained in the same conditions of performance curves.
The continuous curves indicate the recommended working range. The dotted curve is only a guide.
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate
H = total head

PERFORMANCE CURVE

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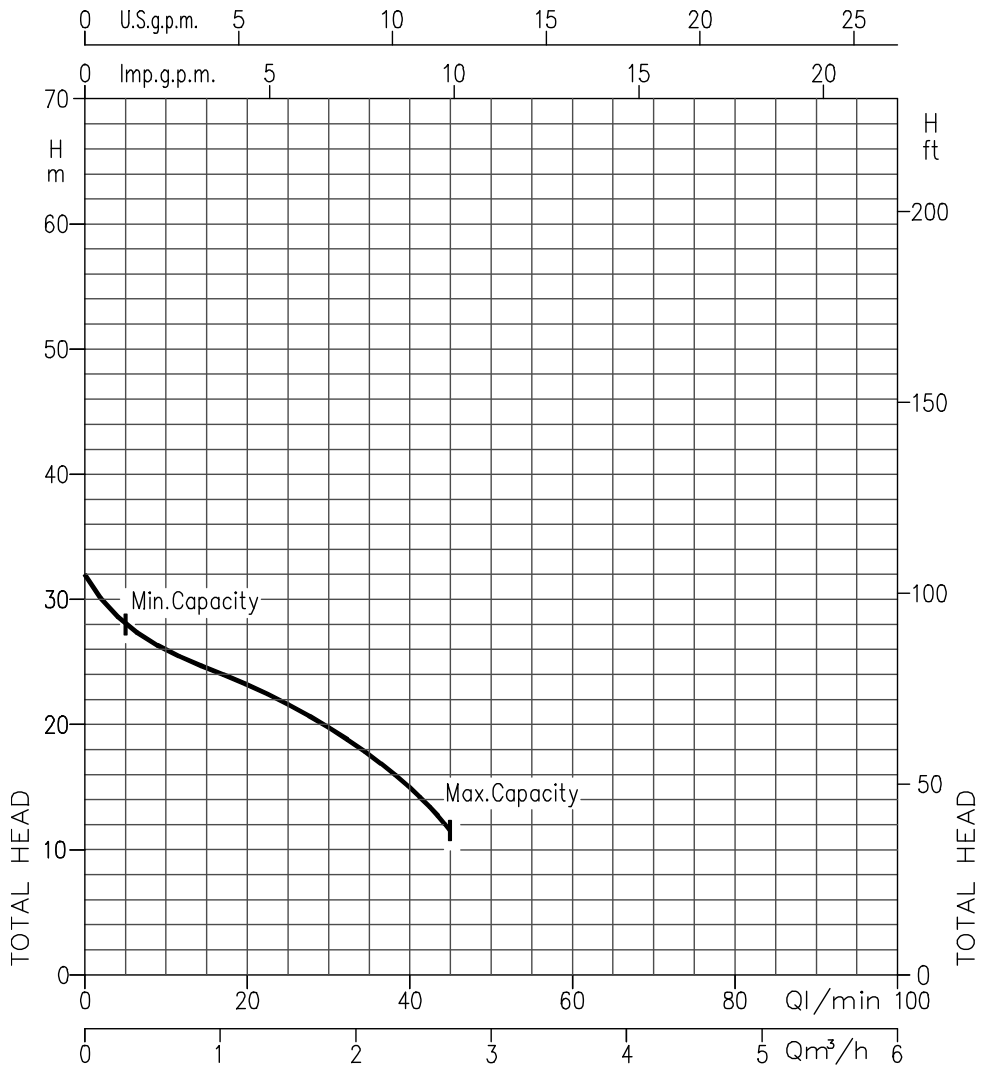
JESX 5 (0.37 kW) - Impeller diameter = 104 mm



Rotation speed ≈ 2800 min^{-1}
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

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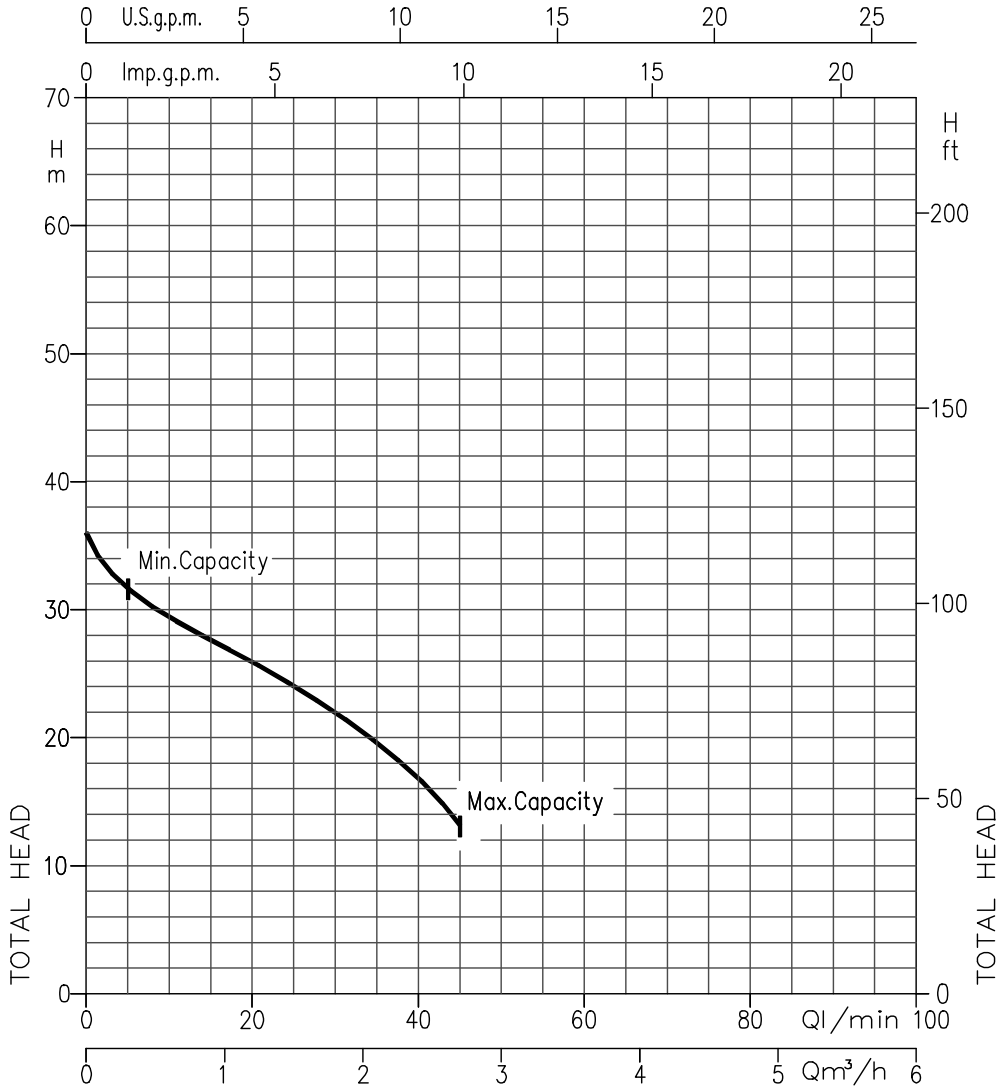
JESX 6 (0.44 kW) - Impeller diameter = 104 mm



Rotation speed ≈ 2800 min^{-1}
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

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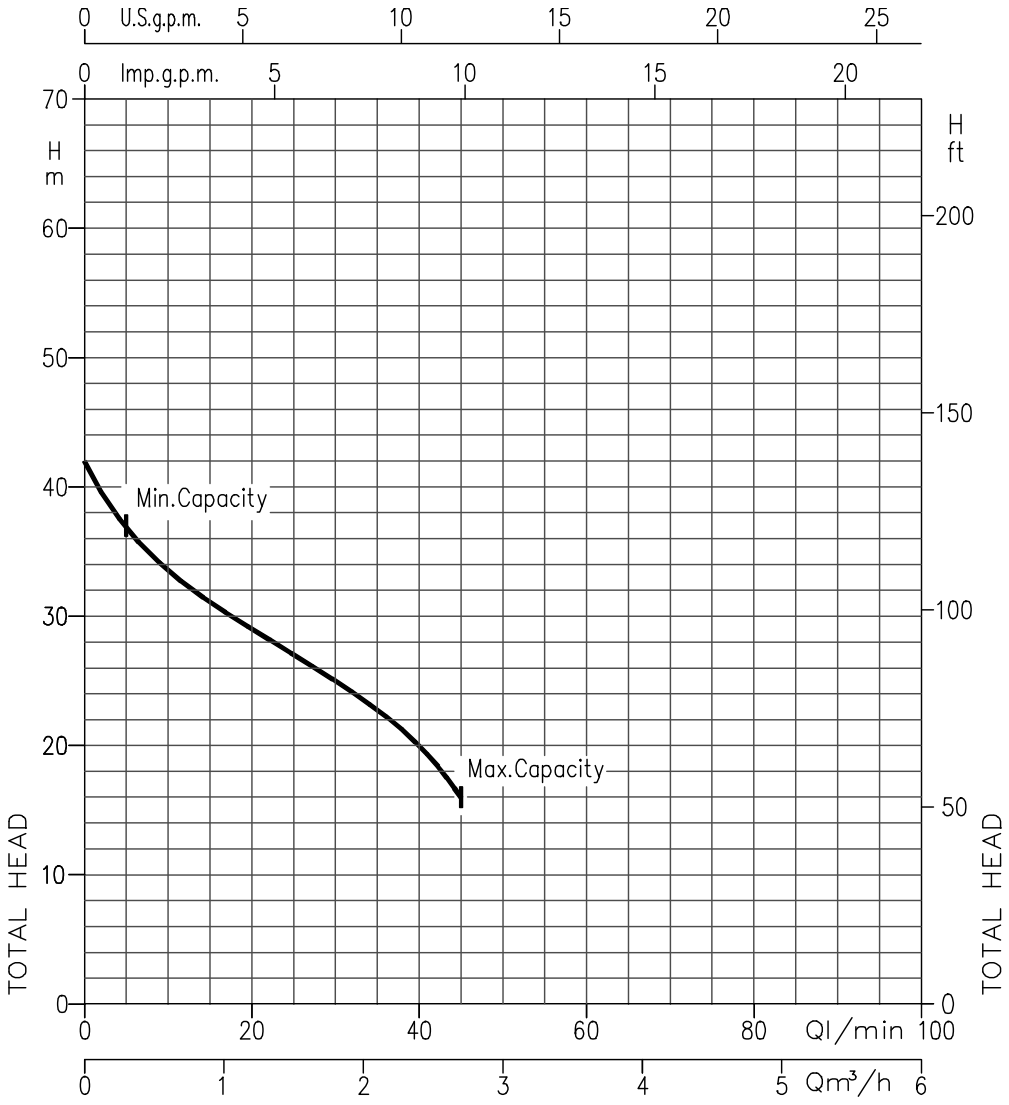
JESX 8 (0.6 kW) - Impeller diameter = 110 mm



Rotation speed ≈ 2800 min^{-1}
Test standard: ISO 9906 – Annex A

CONSTRUCTION

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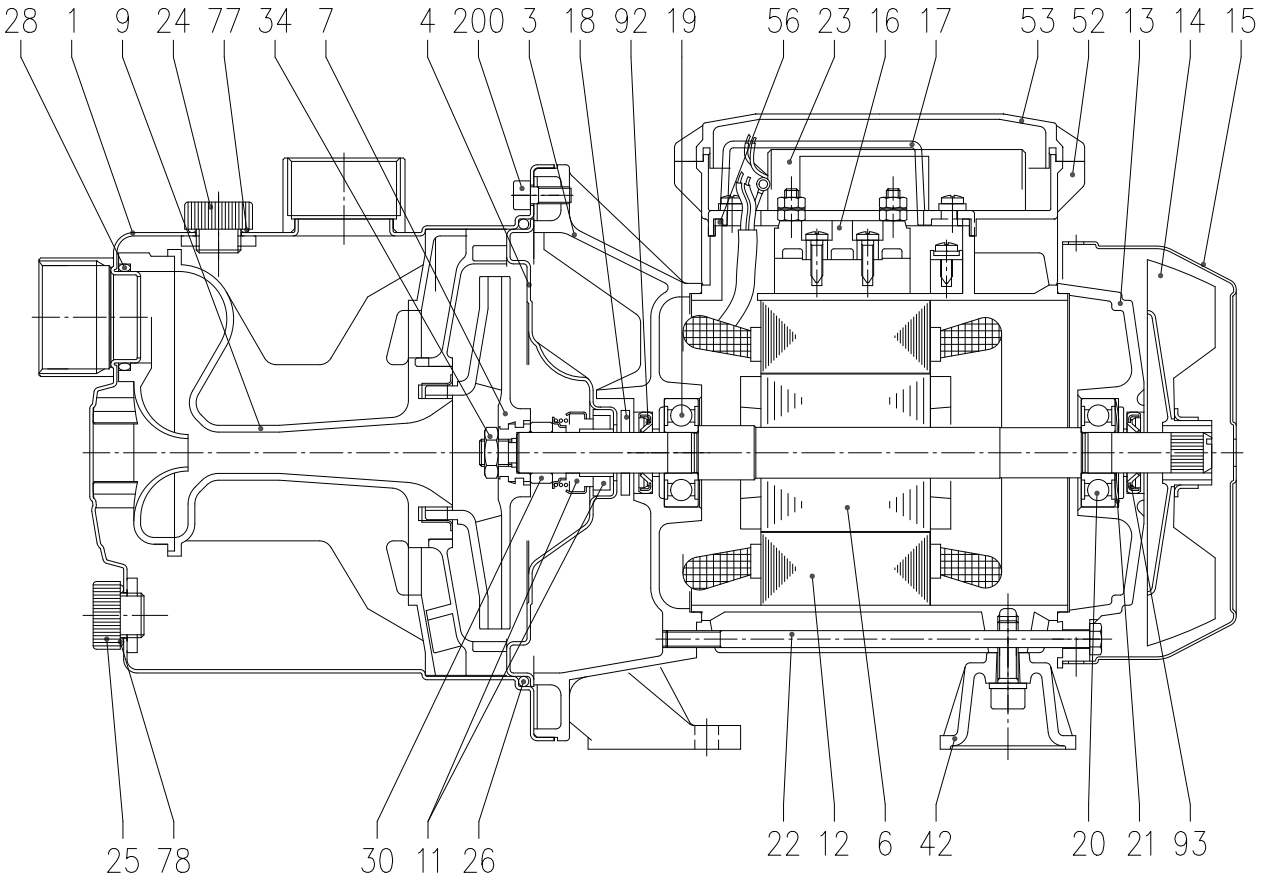
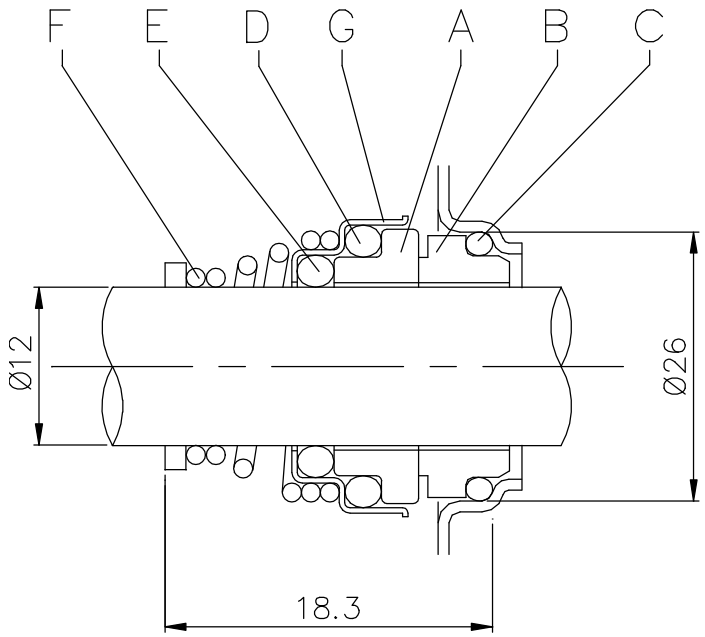
SECTIONAL VIEW



N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1	22	Tie rod	Fe 42 Zincate	4
3	Motor bracket	Aluminium	1	23	Capacitor [1]	-	1
4	Casing cover	AISI 304	1	24	Priming plug	PA	1
6	Shaft with rotor	AISI 303 (Wet extension)	1	25	Drain plug	PA	1
7	Impeller	PPE+PS glass fibre reinforced	1	26	O-ring	NBR	1
9	Diffuser Venturi tube	PPE+PS glass fibre reinforced	1	28	O-ring	NBR	1
11	Mechanical seal	Carbon/Ceramic/NBR	1	30	Mechanical seal spacer	Brass	1
12	Motor frame with stator	-	1	34	Impeller nut (2)	AISI 304	1
13	Motor cover	Aluminium	1	42	Motor support	Aluminium	1
14	Fan	PA	1	52	Capacitor box [1]	ABS	1
15	Fan cover	Fe P04 Zincate	1	53	Capacitor box cover with gasket [1]	ABS+NBR	1
16	Terminal board	-	1	56	Box gasket	NBR	1
17	Terminal box cover [2]	Aluminium	1	77	O-ring	NBR	1
18	Splash ring	NBR	1	78	O-ring	NBR	1
19	Pump side ball bearing	-	1	92	Lip seal [3]	-	1
20	Fan side ball bearing	-	1	93	Lip seal [3]	-	1
21	Adjusting ring	Steel C70	1	200	Screw	Stainless steel A2 UNI7323	6

[1] Only for single phase
[2] Only for three phase
[3] Only for IP55

MECHANICAL SEAL



REF	PART NAME	MATERIAL Standard version (JESX)
A	Rotary seal ring	Ceramic
B	Stationary seal ring	Carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

BEARINGS

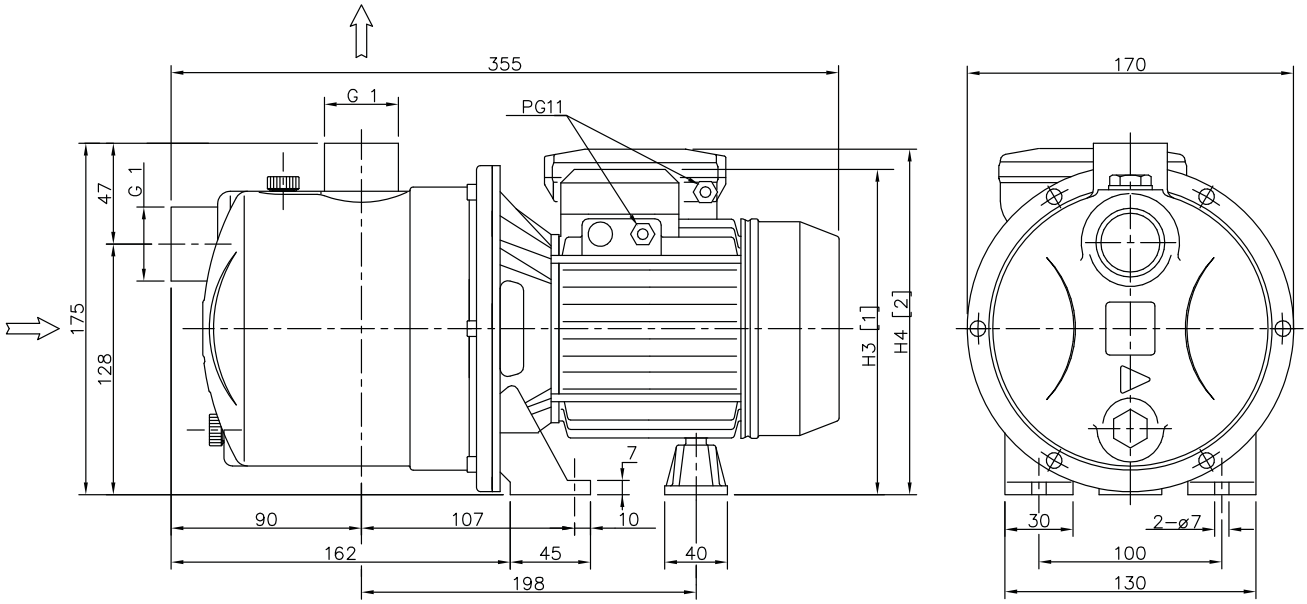
Pump type		Ball Bearing	
Single Phase	Three Phase	Pump side	Fan side
JESXM 5	JESX 5	6201 2RSH	6201 2RSH
JESXM 6	JESX 6	6201 2RSH	6201 2RSH
JESXM 8	JESX 8	6201 2RSH	6201 2RSH

DIMENSIONS AND WEIGHT

50Hz

Rev. F

PUMP



Pump type JESX	Dimensions [mm]	
	H3	H4
5	175	200
6	175	200
8	175	200

[1] = Three phase
[2] = Single phase

DIMENSIONS AND WEIGHT

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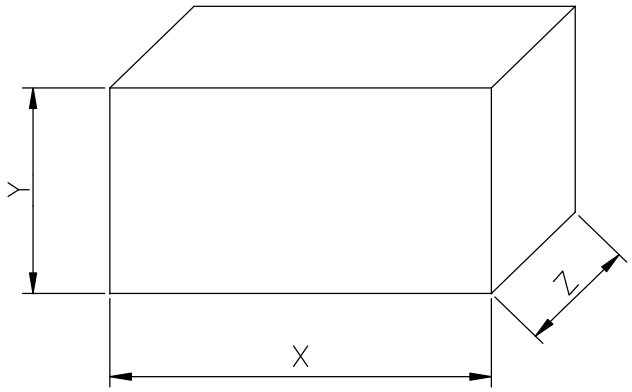
PACKING



Pump type		Packing [mm]			Weight [kgf]	
Single Phase	Three Phase	X	Y	Z	[1~]	[3~]
JESXM 5	JESX 5	182	220	372	5.1	5.1
JESXM 6	JESX 6	182	220	372	5.5	5.5
JESXM 8	JESX 8	182	220	372	6.1	6.1

[1~] Single phase
[3~] Three phase

TECHNICAL DATA 50Hz

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MOTOR DATA

Pump type		Power		Capacitor		Input [kW]		Full load current [A]			Locked rotor current [A]		
Single Phase	Three Phase	[kW]	[HP]	Single Phase [μF]	[V]	Single Phase	Three Phase	Single Phase 230 V	Three Phase 230 V	Three Phase 400 V	Single Phase 230 V	Three Phase 230 V	Three Phase 400 V
JESXM 5	JESX 5	0.37	0.5	10	450	0.44	0.43	2.1	1.5	0.85	6.3	6.4	3.7
JESXM 6	JESX 6	0.45	0.6	10	450	0.54	0.49	2.4	1.9	1.1	8.5	8.6	5.0
JESXM 8	JESX 8	0.6	0.8	12.5	450	0.63	0.58	3.0	2.25	1.3	10.6	10.7	6.2

NOISE DATA

Pump type		Power		L_{pA} - dB(A) *
Single Phase	Three Phase	[kW]	[HP]	
JESXM 5	JESX 5	0.37	0.5	<70
JESXM 6	JESX 6	0.45	0.6	
JESXM 8	JESX 8	0.6	0.8	

* Mean value of several measures at 1m distance around the pump.
Tollerance ± 2.5 dB.

INSTALLATION

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If you use this pump on suction condition , it tends to breath the air from outside because the pressure in pump becomes vacuum condition when it stopped. So water in the pump sometimes fall down to breath the air from pipe connection. If it is used to operate continuously under this condition, this is the cause of breakdown to overheat inside the pump.

So please install foot valve or check valve at suction pipe in order to prevent the pump from such a condition. And moreover will you please support the suction pipe and the delivery one to prevent the pump from leaning the weight of pipe.